
CHAPTER 4

THE NORTH AMERICAN ENVIRONMENT: COOPERATION, INSTITUTIONS, AND ENFORCEMENT

SUMMARY OF FINDINGS

The NAFTA and its related environmental agreements have fostered among the three NAFTA governments broad-based environmental cooperation:

- The institutions created under the environmental agreements provide opportunities for both governments and citizens of the three NAFTA parties to interact at all levels, ensuring that the public's concerns regarding environmental matters will be heard and facilitating joint efforts to address common environmental problems.
- While progress is already evident, many of the three NAFTA governments' environmental concerns -- especially those in the U.S.-Mexico border region -- were decades in the making and cannot realistically be corrected overnight.

The NAFTA and its related environmental agreements have revitalized a long history of bilateral environmental cooperation, particularly along the 2,000 mile shared border with Mexico:

- The U.S.-Mexico Border XXI Program sets five-year objectives for achieving and sustaining a clean border environment and provides a blueprint for meeting those objectives.

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- Through Border XXI's nine binational working groups, U.S. and Mexican officials are now working to reduce emissions from idling vehicles at border crossings, tracking transboundary shipments of hazardous wastes, operating a U.S.-Mexico Joint Response Team to minimize the risk of chemical accidents, finding ways to reduce solid waste from maquiladoras, evaluating children's health risks from cumulative pesticide exposures, and seeking to reduce the impacts of growth and development on fish and wildlife resources along the border.
- With help from the International Boundary Water Commission, new large wastewater treatment plants have recently been completed to service Nuevo Laredo and San Diego/Tijuana, sparing the Rio Grande River and the beaches of San Diego and Tijuana from those cities' raw sewage for the first time in decades.

The Mexican government is improving its enforcement of Mexico's environmental laws:

- Mexico has continued to increase the number of its enforcement actions nationwide, increased the number and sophistication of its environmental inspectors in such critical areas as hazardous waste transboundary shipment, and created an environmental crimes unit in the Attorney General's office.
- Mexico has established an environmental auditing program to promote voluntary compliance. As of April 1997, 617 facilities in Mexico have completed environmental audits, and 404 have signed compliance Action Plans representing more than \$800 million in environmental improvement investments in Mexico.
- Mexico reports a 72 percent reduction in serious violations in the maquiladora industry from 1993 to 1996, and a 43 percent increase in the number of maquiladora facilities in complete compliance.

The Border Environment Cooperation Commission (BECC) and the North American Development Bank (NADBank) are helping communities in the U.S.-Mexico border area design and fund badly needed infrastructure projects that will improve conditions for border residents:

- To date, the BECC has certified 16 projects, with a combined estimated cost of nearly \$230 million. Seven of those projects are already under construction, and construction is imminent in four more.
- The NADBank, once fully capitalized in 1998, will be able to leverage \$225 million into \$2-3 billion in lending. A Bank/EPA cooperative agreement will enable the Bank to combine its financing with up to \$170 million in EPA grants for eligible water and wastewater projects certified by the BECC.

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- The NADBank has already approved financing packages for four projects, two on each side of the border: a water treatment facility in Brawley, California; a wastewater system and water supply improvement project in Mercedes, Texas; a water supply and wastewater treatment facility in Naco, Sonora; and a wastewater treatment plant for an industrial park in Matamoros, Tamaulipas.
- NADBank is working with sponsors of the other BECC-certified projects (not including four projects that did not seek NADBank financing) to develop and finalize technically and financially sound financing packages.

The Commission for Environmental Cooperation (CEC) has begun work on an extensive list of environmental projects that will have direct, positive effects on the North American environment:

- The CEC has developed action plans for the reduction and elimination of two dangerous pesticides, chlordane and DDT, and the toxic industrial chemical PCB, from the North American environment. Mexico's agreement to join the United States and Canada in banning these long-lived chemicals helps ensure that they will no longer cross our borders.
- The CEC is helping the three governments improve their environmental enforcement efforts in such areas as tracking illegal transborder movements of hazardous substances and wastes, enforcing anti-smuggling laws against trade in endangered wildlife, and limiting the illegal trade in ozone-destroying chlorofluorocarbons.

The CEC provides organizations and individuals of the three countries with a forum for the investigation of enforcement allegations and other environmental concerns:

- The submission process subjects member governments to public and international scrutiny for allegations that they are not effectively enforcing their environmental laws.
- Ten public submissions have been filed with the Secretariat (three concerning the United States, five concerning Canada, and two concerning Mexico).
- Two secretariat-generated reports, on the long-range transport of air pollutants and evaluating the death of 40,000 migratory birds at a Mexican reservoir, have also attracted public attention and facilitated cooperative efforts to address identified problems.

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INTRODUCTION

The negotiation of the NAFTA and its related environmental agreements has given added impetus to a long history of U.S., Canadian, and Mexican environmental cooperation. The agreements have resulted in enhanced regional intergovernmental cooperation to address pressing environmental issues, including border pollution, trade in hazardous wastes, climate change and conservation of endangered species. They help ensure that North Americans do not obtain the benefits of economic development at the expense of environmental protection.

NAFTA itself includes numerous provisions designed to safeguard the environment. For instance, NAFTA ensures that the United States can maintain and enforce its existing federal and state health, safety, and environmental standards, as well as U.S. international treaty obligations to limit trade in controlled items, such as endangered species. In addition, NAFTA expressly endorses the principle of sustainable development and includes environmentally-sensitive provisions on dispute settlement and investment. The NAFTA goes further than any other trade agreement in addressing environmental concerns associated with trade barrier elimination.

The NAFTA environmental agreement, the North American Agreement on Environmental Cooperation (NAAEC), has revolutionized environmental policy coordination among the three NAFTA partners. The NAAEC specifically commits its parties to provide for high levels of environmental protection and to effectively enforce their environmental laws. It also created a new institution -- the CEC -- to provide for ongoing dialogue and cooperation on common environmental concerns among the three partners. Importantly, this dialogue extends beyond governments to all levels of society through the CEC's multiple fora for public participation.

To develop needed environmental infrastructure in the U.S.-Mexico border region, the United States and Mexico forged a related agreement at the time NAFTA was negotiated that established two new institutions -- the BECC and the NADBank. The BECC certifies or approves projects based on a set of rigorous environmental, technical, financial, community participation, and sustainable development criteria and refers them to NADBank and other sources for funding consideration. Making extensive use of local companies and workers, BECC and NADBank build technical skill, institutional expertise, and creditworthiness in a growing number of border communities.

This Chapter examines the progress that the three NAFTA governments have made in the past three years in addressing the environmental issues they face -- particularly the problems in the U.S.-Mexico border region. It begins by laying out the broader context of environmental cooperation between the United States and Mexico, since many of the efforts currently underway to address cross-border environmental issues are taking place in conjunction with and outside the context of the NAFTA institutions. While this Chapter -- and most public attention -- focuses on environmental concerns related to the U.S.-Mexico border, it should be recognized that U.S.-Canada environmental cooperation also provides a framework for responding to environmental issues that may arise in the

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course of these governments' increasingly complex economic interactions. Among other issues, the first section discusses progress made in reducing pollution in the U.S.-Mexico border region and provides an update on Mexico's efforts to enforce its environmental laws. The following section describes the activities of NAFTA-related environmental institutions (i.e., the BECC, the NADBank, and the CEC), and assesses these institutions' contributions to addressing North American environmental concerns.

It is important to remember that many of the environmental concerns facing the United States, Canada, and Mexico -- and particularly, the problems of the U.S.-Mexico border region -- were decades in the making. These problems were not created by NAFTA, and to expect them to be resolved within three years is simply unrealistic. Consider, for instance, that while the United States and Canada have cooperated for decades on cleaning up the Great Lakes, and a great deal of measurable progress has already been made, work is still ongoing and much remains to be done. Estimates for the cost of providing the border with needed environmental infrastructure (for drinking water systems, wastewater collection and treatment, and solid waste disposal) over the next decade range from \$6 to 8 billion. Moreover, only three years' experience under NAFTA provides too little information to attempt an already challenging analysis of how NAFTA's trade flows may affect the North American environment. Rather, the question that this study seeks to answer is whether the mechanisms created by NAFTA and its associated agreements have improved our ability to address North America's persistent environmental problems, and what progress has been made over the past three years toward solving them.

The answer that is beginning to emerge from admittedly incomplete data is that NAFTA and its related institutions are a positive force for North American environmental protection, particularly as they are being complemented by Border XXI, the program of U.S.-Mexico border environmental cooperation. New, unique international institutions have been created, staffed, and are well along in fulfilling their missions. The CEC, for instance, has developed action plans for the reduction and elimination of two dangerous pesticides, chlordane and DDT, and the toxic industrial chemical PCB from the North American environment. Large wastewater treatment plants in Tijuana and Nuevo Laredo have recently been completed by the International Boundary and Water Commission (IBWC), with assistance from the U.S. Environmental Protection Agency (EPA). To date, the BECC has certified 16 projects, which together will improve the well-being of close to one and one-half million people on both sides of the border. In their first two years of operation, the BECC and NADBank are already having a concrete impact on the border region, with seven projects under construction and additional priority projects (with an estimated cost of \$500 million) targeted for the next two years. Primarily water and wastewater treatment projects, these projects often benefit small and impoverished communities. This progress is particularly notable, given that major infrastructure projects in *developed* countries--with fully-developed financial and institutional systems--still take years to go from concept to working infrastructure.

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These NAFTA environmental institutions are now firmly established as enduring mechanisms for tackling tenacious problems throughout the continent. Even more fundamentally, these institutions are significant because they have created numerous opportunities for the governments and citizens of the three NAFTA parties to interact at all levels, thereby facilitating joint efforts to address our common environmental problems, both those we now confront and those that may arise in the future.

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As many of the environmental concerns facing the three NAFTA governments predate NAFTA, efforts to address these concerns in a coordinated manner also have been ongoing for many generations. These were primarily U.S.-Mexico or U.S.-Canada bilateral initiatives, and of limited scope compared to the comprehensive range of activities now underway. The following section describes current efforts to address U.S.-Mexico environmental concerns along their 2,000 mile shared border. Many of these efforts complement activities undertaken by the CEC, BECC and NADBank, and have been reintensified by the NAFTA and its associated agreements. Moreover, they form an integral part of the framework of institutions and relationships now in place to address the effects of economic development on the North American environment.

Bilateral Cooperation

One of the early U.S.-Mexico cooperative endeavors was the establishment in 1889 of the International Boundary and Water Commission (IBWC). The IBWC is composed of a United States Section and a Mexican Section. Since the 1930s, the IBWC has monitored border water quality and has developed international wastewater treatment and management projects.

In 1983, the U.S. and Mexican governments broadened their cooperative activities to improve the environment of the border region when they signed the Agreement for the Protection and Improvement of the Environment in the Border Area (the La Paz Agreement). Later, the environmental authorities of both governments released the Integrated Border Environmental Plan (IBEP) for the Mexican-U.S. Border Area in February 1992. The IBEP was replaced in 1996 by the Border XXI Program. Along with the NAFTA and its environmental institutions, Border XXI now forms the core of the United States' environmental cooperative relationship with Mexico.

Border XXI operates by setting five-year objectives for achieving and sustaining a clean border environment. U.S. federal agencies, such as the Environmental Protection Agency, the Department of Health and Human Services and the Department of the Interior; these agencies' Mexican counterparts, and the IBWC, as well as state environmental, natural resources, and health agencies from both sides of the border, all play key roles in implementing this program. Nine binational workgroups operate under this program: Water, Air, Hazardous and Solid Waste, Environmental Health, Pollution Prevention, Contingency Planning and Emergency Response, Compliance Assurance

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and Enforcement, Natural Resources, and Information Resources Management. Activities under these workgroups, as described below, reflect the breadth of the commitment to address the serious environmental problems of the border area.

The Border XXI workgroups cooperate to resolve problems of concern to both countries. In many cases, this involves providing physical infrastructure, but it also involves capacity building, such as creating institutional infrastructure, developing training programs, monitoring mechanisms and binational environmental management programs, and providing technical assistance and access to information.

In addition, the environmental cleanup of the border area has increased the involvement of public and local organizations in the identification and resolution of the major environmental problems. The Border XXI program initiated an extensive public outreach effort during its development, and continues to build and improve on this effort through the work groups and EPA's Border Liaison Offices. EPA's Border Community Grants Program has also provided assistance to community organizations in the region involved in addressing specific environmental problems.

Water

Water issues on the U.S.-Mexico border do not lend themselves to short-term solutions. Careful planning is necessary to respond to the need that has not been adequately met, in many cases for decades, for clean drinking water and sewage treatment. Rapid industrialization, which has its roots in the 1965 launch of the maquila program, and population growth along the border, combined with perennial water scarcity, amplify the challenge. Combined federal, state and international jurisdictions for water resource management also present complexities. For these reasons, fully addressing wastewater collection and treatment may require decades of effort.

Nonetheless, since NAFTA's entry into force, the United States and Mexico have made progress in addressing the water and wastewater treatment problems of border communities. For instance:

- New large wastewater treatment plants have recently been completed by the International Boundary and Water Commission (IBWC) and EPA to service Nuevo Laredo and Tijuana. The year-old Nuevo Laredo plant is effectively removing 18 million gallons per day of raw sewage which had formerly been dumped into the Rio Grande and has resulted in a significant improvement in the quality of this international river's waters. By 1999, full operation of the already partly operational new international treatment plant between San Diego and Tijuana will protect those cities' beaches from raw sewage for the first time in decades.
- The BECC and NADBank are actively developing, financing, and building border environmental infrastructure projects. As is described more fully in the following section, seven projects are already under construction, and the BECC and NADBank are now poised to accelerate their pace of project development and approval over the next 24 months.

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- The IBWC, with EPA funding, is also coordinating “quick fix” repairs to sewage systems at Nogales/Nogales and Calexico/Mexicali. With EPA funding, the IBWC has also developed facilities plans for these and several other cities along the Rio Grande that are necessary for BECC certification and NADBank financing.
- The states of Texas and New Mexico, with EPA assistance, have made progress in addressing the needs of the 400,000 people who live in colonias (unincorporated communities) without basic public services. A typical example is the Lull colonia, near Edinburg, Texas, where loans from federal, state, and city agencies have brought Lull’s residents indoor plumbing and sewage treatment, which most homes had previously been without.

Information has previously been limited on the location, size, quality, and capacity of transboundary surface and groundwater resources. Binational efforts are now underway to collect this information and to complete the characterization of the major transboundary groundwater resources by the year 2000. Several ongoing binational projects under the auspices of the Border XXI Water Workgroup seek to characterize the major transboundary aquifers, including those in the areas of Nogales, Arizona; Columbus, New Mexico; and El Paso and Del Rio, Texas. These projects will help the border communities plan for the rational use of their limited water resources.

Binational agreements are in place for monitoring the quality of principal surface water bodies. Two binational studies of toxic contaminants in the Rio Grande have been conducted and a third study is underway by the International Boundary and Water Commission (IBWC) and the Texas Natural Resource Conservation Commission. A similar survey is underway for the New River, a part of the Colorado River basin.

Through the BECC and NADBank, and under the framework of Border XXI, the United States and Mexico have jointly developed strategies and mechanisms for rehabilitating drinking water treatment, wastewater treatment, water distribution and wastewater collection infrastructure; and streamlining cooperation and increasing institutional capacity to develop integrated plans.

Air

Several major U.S. border cities fail to meet EPA air quality standards due to transborder air pollution, among other factors. These cities, classified as non-attainment areas, are required by the Clean Air Act to achieve EPA standards by the year 2005. According to 1995 population estimates, more than six million people live in areas along the border that fail to meet their respective country’s federal air health standards. As such, the United States and Mexico have recognized that it is essential to engage in joint air pollution reduction efforts.

The Joint Advisory Committee (JAC) to the Ciudad Juarez, Chihuahua; El Paso, Texas; and Doña Ana County, New Mexico Air Quality Improvement Basin, is a clear example of the constructive

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relationship the United States and Mexico have developed for cooperating on environmental concerns in the border area. The Committee, whose members represent a cross section of the local communities and which was created at their urging, provides a means for citizens in the area to help design specific measures to improve air quality. Several issues are under consideration in the JAC, including reduction of traffic congestion on the international bridges, economic incentives for air quality improvement, the development of an air quality index for the entire air basin, and a method of publicizing air quality, on a real-time basis, to the general public.

While most border air projects are funded through grants to state and local agencies, the international nature of the issues necessitates federal leadership. The Border XXI Air Workgroup (BAW) provides this leadership. Its objectives include developing air quality assessment and improvement programs, such as monitoring and emissions inventories; building institutional infrastructure and technical expertise in the border area; and promoting air pollution abatement strategies, such as reduced vehicle emissions related to idling at border crossings and lowered emissions from brick kilns.

Some of the projects the BAW has developed to address air-related environmental concerns include:

- *Tijuana-San Diego, Mexicali-Imperial Valley and Ciudad Juarez-El Paso-Sunland Park:* The United States and Mexico have undertaken a wide variety of programs, including advanced pollutant monitoring, emissions inventory development, modeling and identification of innovative emissions controls. The overall goal of these efforts is a management program which assesses and protects air quality.
- *Mexico Emissions Inventory Development Program:* This program seeks to identify the most appropriate emissions estimation methods by individual source type for point areas, motor vehicles, and natural sources. The methodology will be implemented over the next two years in Mexicali and Tijuana.
- *Air Quality in Big Bend National Park:* In 1993, EPA and the National Park Service presented air modeling results showing degradation of the air quality in Big Bend National Park in Texas. The United States and Mexico agreed in May 1996 on a multi-year field study, which is currently underway, to determine the sources of pollution contributing to the poor air quality in Big Bend.
- *U.S.-Mexico Information Center on Air Pollution:* Officials in both countries are developing and operating an information transfer center for the border area, which provides public access to pertinent information.
- *Border Vehicle Congestion:* The BAW has formed a subgroup to review ongoing efforts and to make recommendations on ways to reduce air quality problems caused by congestion at border crossings.

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The initial focus of most of the air program is to gather reliable data in the field to develop and implement air pollution control strategies for meeting Clean Air Act standards by 2005. State and local agencies will gather air quality data in most areas along the border. Several field studies will be performed by the end of fiscal year 1997 to obtain such data.

Hazardous and Solid Waste

A Hazardous Waste Workgroup was formed under the La Paz Agreement; it has handled binational solid waste issues in the border area since 1996. The group's focus has been on providing training to Mexican staff and managers in the waste generating industries and regulatory agencies, conducting pilot hazardous and solid waste clean-up or management projects, providing information and assistance with pollution prevention methodologies and technologies, taking enforcement actions against violators in the United States, and tracking the movement of hazardous wastes across the border. In addition, Mexico's Instituto Nacional de Ecologia (INE) has recently undertaken the development of a "vulnerability atlas" for Mexico to map out ecologically vulnerable areas and identify appropriate regions for siting waste management facilities.

One successful project is the Hazardous Waste Tracking System (HAZTRAKS), which tracks the transboundary shipments of hazardous wastes in the U.S. and Mexico. The system has an extensive array of features designed to produce reports on waste movements and enable the United States and Mexico to conduct compliance monitoring and enforcement actions under their respective import and export regulations. It has been used to take enforcement actions against several violators, and to highlight for enforcement officials irregularities needing investigation. The system is currently undergoing revision and expansion to make it more accessible to state regulators on both sides of the border, and to other agencies interested in tracking these wastes or taking enforcement actions. As it becomes more sophisticated and more widely accessible, it should provide better data on hazardous waste movement and lead to increased enforcement activity against violators.

The La Paz Agreement, the establishment of the Binational Working Groups, and the more recent development of binational five year goals for the top environmental issues along the U.S. - Mexico border have combined to strengthen cooperative work towards resolving hazardous and solid waste problems in the border area. The health and environmental stakes are high, and the work already completed is a vital beginning towards the border's long-term sustainability.

Contingency Planning and Emergency Response

The U.S.-Mexico Joint Response Team (JRT) of the Workgroup on Contingency Planning and Emergency Response is working in several areas to minimize and reduce the risk of chemical accidents. The JRT is comprised of U.S. and Mexican federal and state agencies responsible for chemical emergency prevention, preparedness and response.

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The efforts of the Workgroup on Contingency Planning and Emergency Response have led to increased public awareness of chemical risks in local communities and a united effort to reduce the risks. Sister cities -- like Brownsville, Texas and Matamoros, Mexico -- are working together to collect information on the chemicals produced, used, and stored in their communities and to develop plans to mitigate the effects and protect the public should a chemical accident occur. These same sister cities are also cooperating with industry to reduce chemical risks and prevent chemical accidents. The Workgroup on Contingency Planning and Emergency Response enables the two federal governments to effectively and efficiently identify and resolve issues of international concern in support of states and, more importantly, sister cities. In addition, this group continues to ensure timely notification to states and local communities of international incidents and provides emergency response support to the local communities as needed.

Pollution Prevention

Voluntary pollution prevention programs play an important role in alleviating border pollution. A number of these programs focus on the maquiladora industries as one of the many sources of pollution along the border. Some of the specific objectives of the voluntary pollution prevention programs include reducing the amount of waste generated, raw materials, water and energy being used, and air and water emissions for critical pollutants.

Historically, baseline data needed to show progress in reducing pollution have been gathered on a plant-specific basis through voluntary audits. One such voluntary program administered by the Texas Natural Resource Conservation Commission (TNRCC) is the Clean Texas program, whose overriding goal is to reduce hazardous waste along the Texas-Mexico border by 50 percent by the year 2000.

TNRCC's successful program focusses on a significant volume of waste coming into Texas. In collaboration with the Mexican Attorney General for Environmental Protection (PROFEPA), this program has resulted in maquiladoras, which generate the bulk of this waste, instituting several innovative, cost-saving, waste reduction measures. Seven site visits over the last two years have resulted in annual reductions of 19,000 gallons of hazardous materials and 13,000 pounds of hazardous waste; conservation of over 350,000 gallons of water annually; and reduction of scrap materials by 1.8 million pounds. These measurable environmental results represent significant economic benefits estimated at about \$2 million in total savings.

While the plant-specific reductions attained through the voluntary audit program are extremely valuable achievements, there are other important elements of the voluntary pollution prevention program which are not as readily quantified. The overall mission of this program is to demonstrate and promote the benefits of voluntary measures as a cost-effective means of reducing levels of contamination, improving the quality of life for border residents, and promoting economically and environmentally sustainable development. By working with industry, state and local governments,

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and private citizens, a variety of activities including outreach, education, capacity building, and compliance assistance can be implemented successfully. The following are some examples of other current and proposed projects that work towards these goals:

- *San Diego-Tijuana Waste Wi\$e Program* is a partnership of federal, state and local entities from both sides of the border aimed at reducing manufacturers' generation of solid waste. To date, on-site waste reduction assessments have been completed at 27 facilities, a waste characterization of the Tijuana landfill has been done and factored into some important solid-waste planning decisions, bilingual guidelines for solid waste reduction have been developed for the electronics and plastic injection industries, and a World Wide Web site has been set up (in Spanish and English) to disseminate project information.
- *Infrastructure Development Exchange with Mexico*: The purpose of this program is to provide technology transfer and capacity-building assistance to state governments and maquiladora associations in pollution prevention. This consists of meetings and workshops to develop a pollution prevention element in environmental audit programs; exchange of information on active pollution prevention programs; and training to develop and improve workplace recycling and community recycling programs.
- *Technology Transfer and Capacity Building on Pollution Prevention with PROFEPA*: Joint partner site assessments and follow-up site visits are focused on determining opportunities to implement pollution prevention and clean technology for Mexican industrial facilities. These have resulted in reductions in wastes and air emissions, and have also cumulatively saved facilities over a million dollars through pollution prevention.

Health

The need to address environmental health issues was acknowledged explicitly in NAFTA environmental side agreements and in Border XXI. The parties involved in Border XXI's Environmental Health Workgroup (EHW) seek to increase binational cooperation between environmental and public health entities to improve the health of border communities. These collaborative efforts will improve the ability to identify and address those environmental conditions posing the highest health risks, so as to reduce exposures and other factors associated with disease rates along the border. Among the workgroup's objectives for the first five years are:

- to improve the capacity of state, local, and tribal health and environmental agencies to assess the relationship between human health and environmental exposures by conducting surveillance, monitoring and research, delivering environmental health intervention, prevention and educational services;
- to increase the opportunities of stakeholders on the border (including individuals, communities,

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institutions and occupational groups) to participate in environmental health initiatives;

- to improve training opportunities for environmental and health personnel; and
- to improve public awareness and understanding of environmental exposure conditions and health problems by providing information and educational opportunities.

Efforts to achieve these objectives are currently focused on four areas: surveillance and monitoring, research, education, and communication. EPA's Office of Research and Development is working directly with communities along the border region to understand the exposure of residents to pollution, to determine the health effects of such exposure, and to disseminate information and educational materials about preventing exposure. Some of the numerous relevant activities include monitoring and surveillance projects to develop baseline pollution exposure data and projects to evaluate particular health effects of concern to border region residents, such as evaluations of the risk to children from cumulative pesticide exposures, environmental risk factors and lupus, and the link between air pollution and acute morbidity.

Natural Resources

Both the United States and Mexico are committed to protecting our valuable natural resources in the border region. The newly created Border XXI Natural Resources Workgroup is focused on three themes: biodiversity and protected areas; forest and soil conservation; and marine and aquatic resources. Projects for the 1998 work program include binational activities in shared ecosystems such as the Lower Colorado River, the Western Sonoran Desert, the San Pedro and San Cruz Rivers, the Big Bend Area, and the Laguna Madre. Some of the activities will consist of preparing joint flora and fauna inventories, working together on assessment and restoration work, and sharing and linking natural resource management plans for protected areas.

In addition to the activities planned under Border XXI, the wildlife agencies of the U.S. and Mexico are collaborating as part of a joint NAFTA initiative for natural resource management in three priority areas in response to mutually important conservation challenges: (1) local capacity building/training; (2) sustaining ecosystems; and (3) information transfer/management. There is also a need to promote development strategies within rural communities (which often may become marginalized by large-scale economic development activities) in order that they may use their resource-base in creative and productive ways. Project partners include government (federal, state, municipal), non-government organizations, academic institutions, and indigenous and peasant communities.

Another initiative, the U.S.-Mexico Borderlands Program, seeks to address, avoid or minimize the impacts of growth and development on the fish and wildlife resources and their related habitats in six ecosystems along the international border.

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State of the Environment in the Border Area

Much of the previous section describes new initiatives for monitoring and assessing pollution along the border. The monitoring information that is being gathered through these initiatives can not yet be relied on to establish a change in long-term trends in border pollution. In some cases monitoring and tracking systems have only recently been established; in others, the data available at this time is insufficient to draw conclusions. For example, air monitoring data for 1995 have only recently been made available, and two years of data are not enough to draw conclusions about trends. Likewise, much of the increase in information in the HAZTRAKS database may be attributed to an improvement of the system as well as an increase in compliance rates of (and consequently better reporting by) industries as a result of enforcement actions attributed to the use of the system.

Two reports have been developed on environmental conditions in the U.S.-Mexico border area. These reports, "U.S./Mexico Border Environmental Study Toxics Release Inventory Data, 1988-1992" (dated February 1996), and "U.S./Mexico Border Environmental Report, Surface Water Quality" (released July 1996), help to establish the baseline data for this area prior to NAFTA. A third report, "U.S./Mexico Border Environmental Study: Air Quality 1985-1994," is still in draft.

While an attempt at quantitative analysis would be premature, it is clear that in the last three years the border area has seen a number of environmental success stories. Tijuana and Nuevo Laredo's recently completed large wastewater treatment plants will now spare the San Diego/Tijuana beaches and Rio Grande, respectively, from the effects of raw sewage, markedly improving water quality in those communities. Also, the efforts made through working with state and local partnerships has resulted in the development of pollution prevention programs, achieving reductions in water use and hazardous and solid wastes generated, and infrastructure projects benefitting residents of the "colonias," unincorporated communities without basic public services, in New Mexico and Texas. In terms of reducing the risk from spills involving hazardous materials, the first formal joint contingency plan for a sister city pair has been finalized for Brownsville, Texas and Matamoros, Tamaulipas, which will serve as an effective model for other sister cities along the border.

A survey the American Chamber of Commerce of Mexico recently conducted of its manufacturing-based membership may shed some more light on what U.S. companies are doing to address environmental problems. Despite the lingering effects of the peso devaluation and ensuing recession, over half of the survey's respondents reported making investments at their plants throughout Mexico in technology or equipment to improve their environmental controls in the last three and one-half years. Of those that reported making investments, the median amount was \$200,000. Additionally, more than 60 percent of the respondents reported that they have implemented new industrial hygiene and safety measures since January 1994.

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Environmental Enforcement in Mexico

Since 1992, EPA has cooperated extensively with Mexico on the establishment of a credible enforcement program, with the border area a prime focus. From 1992 to 1996, Mexico conducted 12,347 inspection and compliance verification visits in the border area, partially or totally closing 548 facilities, and fining 9,844 facilities. As a result, Mexico reports a 72 percent reduction in serious violations in the maquiladora industry from 1993 to 1996, and a 43 percent increase in the number of maquiladora facilities in complete compliance.

The United States and Mexico have also cooperated to build Mexico's enforcement capacity to protect our shared environment. Training of environmental and customs inspectors and policy makers enhances both countries' enforcement capacity. Over 660 Mexican environmental inspectors have been trained since 1992, of which 460 are in the border states. The United States has provided training to Mexican inspectors in environmental criminal enforcement as well as hazardous waste inspection. Efforts for the remainder of 1997 will focus on water discharge inspections, and investigatory sampling techniques.

In 1996, EPA trained over 220 inspectors from U.S. and Mexican customs, environmental and other federal and state law enforcement agencies in the interdiction of illegal shipments of ozone-depleting substances, in 20 workshops presented at seven border crossings and water ports. In FY95, EPA conducted a joint training program for U.S. and Mexican customs and environmental inspectors in transboundary hazardous waste shipment compliance monitoring, training over 230 inspectors from both countries at 12 major border crossings. In 1996, EPA worked with state environmental agencies to build their capacity to continue this cooperative training on a routine basis. As examples, Texas and California routinely train U.S. and Mexican customs inspectors in hazardous waste compliance, through formal training conducted almost monthly and more routine informal training during border crossing inspections.

The Mexican government has instituted an innovative auditing program to promote industry leadership in voluntary compliance. The program has grown to maturity since its initiation in 1992, with 274 facilities entering the program in 1996. As of April 1997, 617 facilities have completed environmental audits, and 404 have signed Action Plans to implement recommended improvements to attain, continually assure, and exceed compliance. The Action Plans represent more than \$800 million in environmental improvement investments in Mexico.

EPA Region 6 has also worked with the Mexican government on an innovative approach to an enforcement action against an American company regarding hazardous waste import violations. As part of the settlement award, in addition to changes at the facility, the company committed \$200,000 for further pollution prevention measures (reducing hazardous wastes, air emissions and water discharges) at the plant involved in the case.

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ACTIVITIES OF NAFTA'S ENVIRONMENTAL INSTITUTIONS

NAFTA environmental agreements created three institutions -- the Border Environment Cooperation Commission (BECC), the North American Development Bank (NADBank), and the Commission for Environmental Cooperation (CEC). These three institutions are taking concrete steps to address the region's environmental problems. The BECC and NADBank are certifying and arranging financing for numerous infrastructure projects designed to reduce pollution and improve the environment in the U.S.-Mexico border region. The CEC, for its part, has begun work on an extensive array of environmental projects in which the three NAFTA governments are cooperating to achieve such diverse objectives as protecting migratory birds, tracking hazardous wastes to ensure they are disposed of properly, and identifying sources of pollution. This work has begun to create an entirely new and more cooperative framework to address transnational environmental questions.

In addition, the CEC, the BECC and the NADBank have all created additional avenues for public input into environmental decision making. This not only ensures that policy makers in all three countries are made aware of environmental concerns at the grassroots level, but has also provided alternative avenues for members of the public to ensure that their environmental concerns are heard in cases in which local or national governments may have been initially unresponsive.

NAFTA and its associated environmental agreements have given the three parties more effective tools to address common environmental concerns, by creating mechanisms to implement their commitment to protect and improve their shared environment for future generations. Some of the activities they have initiated in the past three years are discussed below.

The BECC and the NADBank

Overview

The United States and Mexico have long recognized the urgent need for additional environmental infrastructure in the border region (defined as the area within 100 kilometers of the international boundary). The BECC and the NADBank, which were created under a U.S.-Mexico accord signed in November 1993, are now providing a mechanism to begin to fill that need in a systematic, well-considered manner. These institutions were designed to develop, finance, and construct environmental infrastructure projects, with special priority for wastewater treatment, drinking water, and municipal solid waste projects. In addition, the NADBank is permitted to provide NAFTA-related community adjustment and investment throughout the United States and Mexico.

For decades communities along both sides of the U.S.-Mexico border have been plagued by the problems of raw sewage dumped in boundary waters, unsafe drinking water, and inadequate municipal waste disposal. Rapid population growth and industrialization, which has its roots in the 1965 launch of the maquila program, combined with water scarcity, has and will continue to

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exacerbate these problems. The border area's 1995 population was about 10 million and is expected to double in the next 20 years. Of the 5 million residents on the Mexican side of the border, about 88 percent of the population has drinking-water connections and 69 percent is connected to sewage collection infrastructure. (34 percent of this collected sewage receives some treatment.) On the U.S. side, with about 5.2 million residents, all cities are served by drinking-water authorities, and the vast majority have EPA-permitted wastewater treatment works. However, several hundred thousand people live in colonias. With EPA and other agencies' assistance, Texas and New Mexico have made notable progress in addressing the water infrastructure needs of the colonias, but the wastewater problems are expected to persist in New Mexico until 2000 and in Texas until at least 2010. With estimated costs for border environmental infrastructure over the next decade ranging from \$6 to \$8 billion, further assistance is needed.

BECC and NADBank were designed to help respond to these problems and to assist in addressing additional obstacles: communities' inadequate engagement in the infrastructure-development process; localities' unwillingness or inability to incur debt; users' unfamiliarity with financing by user-fees, rather than grants; and a lack of comprehensive planning that incorporates long-term operation and maintenance. Against this backdrop, the BECC and the NADBank represent new models for international cooperation at the local level and offer significant, direct benefits for U.S. citizens. The border environmental operations assist Texas, New Mexico, California, and Arizona, while the NADBank domestic window has the potential to help communities throughout the United States adjust to NAFTA. In less than two and one-half years of operation, the BECC and NADBank are:

- developing, financing, and building border environmental infrastructure projects;
- participating in the coordination of the U.S.-Mexican response to border environmental problems at the local, state, and federal levels;
- establishing a program to assist communities throughout the United States that have been affected by changing trade patterns under NAFTA; and
- tackling obstacles to environmentally, technically, and financially sustainable projects.

Border Environmental Infrastructure Projects

Under the Agreement, the NADBank can only finance environmental infrastructure projects that have been certified by the BECC. To date, the BECC has certified 16 projects, with a combined estimated cost of nearly \$230 million -- and in many cases BECC and NADBank provided the crucial technical assistance needed to ensure a project's sustainability. These projects fall into four broad categories: (1) projects financed by the Bank; (2) projects that sought other sources of financing; (3) projects needing further assistance to become technically and financially sustainable; and (4) certified projects for which financing packages are in a preliminary stage.

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Financing packages for four BECC-certified projects have been approved by the NADBank Board, two on each side of the border:

- *Brawley, California:* The \$24.8 million water treatment facility, now under construction, will bring the city into compliance with federal and state standards. The NADBank's financing package helped Brawley (an unrated community) to access private sector institutional investors. The financing was secured with NADBank participation.
- *Mercedes, Texas:* The \$4.1 million project, now under construction, will improve the wastewater system and water supply for this Texas community. The Bank combined its financing with grants from the U.S. Economic Development Administration (EDA) and the Rio Grande Valley Empowerment Zone Corporation in a sustainable and affordable financing package. The financing was secured with NADBank participation.
- *Naco, Sonora:* The \$830,000 water supply and wastewater treatment facility will serve this small, impoverished community, and solve a serious transboundary problem by reducing the risks of system overflows into Naco, Arizona. BECC provided technical assistance to help the project meet certification requirements, and NADBank is combining its direct loan with grants from the U.S. Environmental Protection Agency and the Mexican National Water Commission (CNA) in an affordable financing package.
- *FINSA, Matamoros, Tamaulipas:* The \$1.1 million wastewater treatment plant will service an industrial park. The Bank's partial guarantee is available to support private financing for this project.

Four more projects -- three of them now under construction -- sought sources of financing other than NADBank:

- *El Paso, Texas area:* BECC technical assistance helped this on-site wastewater treatment project meet certification requirements, and after certification BECC helped secure grant funding.
- *Douglas, Arizona:* A \$2 million water and sewage upgrade began construction in 1996 after arranging financing from other sources. BECC helped the city assess the projects' transboundary environmental impacts prior to certification, and NADBank has approved a \$15,000 grant to study Douglas' financial capacity for future projects.
- *El Paso, Texas:* An \$11.7 million wastewater reuse project began construction in 1996 after arranging funding from other sources; the project will reuse treated wastewater for irrigation and industrial use, reducing dependence on groundwater reserves and benefiting 90,000 residents.

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- *Somerton, Arizona:* A fourth project, a \$1.4 million wastewater treatment plant, also received BECC technical assistance and is resolving post-certification technical questions before beginning construction.

NADBank also is working with the sponsors of the additional BECC-certified projects to finalize technically and financially sound packages.

NADBank is assisting the other BECC-certified projects to upgrade their systems management by providing technical assistance under the Bank's Institutional Development Program (IDP). These projects include:

- *Nogales, Sonora:* A \$39 million water distribution upgrade project; portions of this large project have begun construction. As a first step, NADBank has approved a \$200,000 IDP grant to upgrade the systems management for this project.
- *Agua Prieta, Sonora:* A \$2 million municipal solid waste project; NADBank approved a \$65,000 IDP grant to improve systems management.
- *Puerto Peñasco, Sonora:* A \$1.4 million municipal solid waste project; NADBank approved a \$77,000 IDP grant to improve systems management.

BECC has recently certified four additional projects:

- *Tijuana, Baja California:* The \$18 million Parallel System and Treatment Plant Rehabilitation project will allow the city to better manage its sewage flows, and will allow needed repairs to help avoid sewage runoff into the Tijuana River. Complementing the new International Wastewater Treatment Plant in San Diego, it will benefit more than one million residents. EPA anticipates granting \$16 million to help fund the project and NADBank is working with project sponsors to put together a financing package.
- *Tijuana, Baja California:* The \$170,000 Ecoparque project consists of the expansion of a pilot project set up to treat wastewater for reuse as irrigation to green areas.
- *San Diego, California:* The \$99.6 million South Bay Reclamation Plant will allow treated wastewater to be reused in the San Diego area, lessening the city's use of primary water from its source. The City of San Diego will seek a grant from EPA to cover part of the projected costs.
- *Alton, Texas:* The \$14.8 million wastewater treatment system includes a wastewater collection system for the city and its colonias for treatment at McAllen's wastewater treatment plant. NADBank is working on a financing package which would include the Texas Water Development Board and Farmer's Home Administration.

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BECC and NADBank have also developed a joint list of further significant projects for future consideration, and are coordinating the application of their resources for project technical assistance and institutional capacity-building toward the most promising of these projects. Making extensive use of border-area companies and workers as they do so, the institutions build technical skill, institutional expertise, and creditworthiness in a growing number of border communities.

A Coordinated Response to the Border Environmental Problems

The BECC and NADBank help ensure that the United States and Mexico work together to address the environmental problems that have afflicted our border region. These institutions represent new models for international cooperation at the local, state, and federal level. The strong representation from border states and communities in the BECC Board and Advisory Council helps ensure that the region's environmental priorities are considered at the local and state level. The NADBank, which is jointly governed by the United States and Mexico, promotes a continuing federal focus on the environmental needs of the border region. These coordinating roles are exemplified by the BECC certification process, NADBank co-financing arrangements, and the BECC/NADBank outreach efforts.

BECC Certification

The BECC is designed to work with the affected local communities and states, as well as non-governmental organizations, in developing effective solutions to border region environmental problems. The BECC certifies projects to the NADBank and other financial institutions in accordance with its certification criteria, which have been developed with the participation of hundreds of citizens and scores of institutions. To be eligible, all projects are required to satisfy requirements in eight areas, including rigorous environmental and technical standards. Projects with significant transboundary effects require an environmental assessment and a BECC determination, in consultation with affected localities, that the project achieves a high level of environmental protection for the affected area. Perhaps the most innovative features of the criteria are requirements for extensive public participation and transparency, as well as demonstration of the project's capacity to meet sustainable development standards.

NADBank Co-financing

The NADBank, an international financial institution equally capitalized by the United States and Mexico, is designed to leverage limited resources into substantial financing for border environmental projects and community adjustment. The United States and Mexico have each completed the first three tranches of their capital contributions. Once fully capitalized (as expected in FY 1998), U.S. appropriations of \$225 million will be leveraged into \$2-3 billion in financing for border environmental infrastructure projects and community adjustment that will provide significant benefits for U.S. citizens and firms. The capital structure of the Bank allows it to borrow in financial markets

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and lend to projects that otherwise have difficulty accessing financing. Similar to other international financial institutions such as the World Bank, the NADBank is required to preserve its capital, is not permitted to borrow in the tax-exempt bond market, and therefore must charge market-based interest rates. The Bank promotes financially sustainable projects through greater reliance on user fees to cover operating and maintenance costs and to service loans. The Bank can deliver affordable project financing by packaging its loans with concessional funds from other sources.

NADBank lending is further extended through the co-financing relationships it has established in its role as the lead bank for environmental projects. Through cooperative arrangements with federal and state agencies on both sides of the border, the Bank is combining its loans with concessional funds from other sources to provide affordable project finance. Most importantly, the Bank has recently entered into a Cooperative Agreement with EPA that will enable the Bank to combine its financing with up to \$170 million in EPA grants. In addition, the Bank is developing co-financing arrangements with export credit agencies in the United States and Mexico. The Bank is also forging financial partnerships with the State Revolving Funds (SRFs) in the U.S. border states, including arrangements which may enable some small U.S. communities to access the tax-exempt bond market for the first time. Finally, the Bank can and has used its lending and guarantees to encourage private sector financing in environmental clean-up.

Tackling Obstacles to Environmental Infrastructure Projects

Expectations

Perhaps the most difficult obstacles confronting the BECC and NADBank have been unrealistic expectations. The environmental problems in the border region were generated over a long period of time and cannot realistically be corrected overnight. Moreover, the development of major infrastructure projects, especially those which rely on project finance and user fees, often requires years of effort. To counter unrealistic expectations, both the BECC and the NADBank have launched aggressive outreach programs.

While the BECC and the NADBank were designed to specifically address some of the most serious environmental problems at the border, in assessing their accomplishments, it is important to remember what they were not intended to do:

- The mandate of BECC and NADBank is limited to environmental infrastructure projects, with a priority to water and solid waste initiatives.
- BECC/NADBank projects must address pollution problems that are within 100 km of the international boundary or that have a clear transboundary impact.

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- Neither the BECC nor the NADBank is equipped with the financial resources to fund projects that impose no costs on those who benefit. In fact, they are designed to leverage scarce federal grant resources and only to support projects that are self-sustaining (*e.g.*, through user fees).

Project Quality

The BECC and the NADBank have identified and confronted a number of obstacles which have hindered the pace of BECC certification and Bank lending. Many of the projects, as presented, are technically and financially unsustainable. Many small local water systems in the border region are not equipped to manage their projects effectively. Poor border communities have limited capacity and alternatives for raising funds for environmental infrastructure projects.

In the past year, the BECC and the NADBank have taken concrete action to address these impediments. The BECC has used a \$10 million grant from EPA to establish a Project Development Assistance program to assist communities in developing technically and financially sustainable projects. NADBank has set aside \$2 million of its earnings to establish an institutional development program (IDP) to help communities on both sides of the border achieve effective and efficient operation of their water, wastewater, and solid-waste management services. The NADBank and EPA have entered into the Border Environment Infrastructure Fund (BEIF) Cooperative Agreement that will enable NADBank to combine its funding with up to \$170 million in EPA grants in order to make project financing more affordable to poor border communities. NADBank is also establishing co-financing arrangements with other sources of concessional funding. Finally, the NADBank is working to remove structural impediments to project finance, including restrictions on Mexican municipalities to incur debt and offer collateral.

Building on these structural changes, their recently-unveiled technical assistance programs, and the BEIF Cooperative Agreement with EPA, the BECC and NADBank are now poised to assist the border region in addressing its environmental infrastructure needs. NADBank and BECC, together with EPA and CNA, have identified projects with a total cost of about \$500 million that are likely to be the core of their work plan for the next two years. In addition to a number of larger projects in the development stage, this work plan includes an immediate action program for 18 small projects in Mexico and a proposed NADBank program with the State Revolving Funds to assist small U.S. border communities gain access to the tax-exempt bond market to finance environmental projects. The pace of project development and approval is expected to increase significantly over the near term.

The Commission for Environmental Cooperation

The United States, Canada, and Mexico created the CEC to address regional environmental concerns, help prevent potential trade and environment conflicts, and promote the effective enforcement of environmental laws. Prior to the creation of the CEC, many North American cooperative environmental activities were bilateral in nature. Very few involved all three governments. The CEC

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has shifted the focus of environmental efforts to trilateral activities, often involving the entire North American region. This has greatly improved the three governments' ability to address regional environmental concerns.

The CEC accomplishes its work through the combined efforts of its three principal components: the Council, the Secretariat and the Joint Public Advisory Committee (JPAC). The Council is the governing body of the CEC and is composed of the cabinet-level environment officials from each of the three NAFTA parties. The Council is required to meet at least annually. This ensures that momentum is maintained behind common environmental initiatives. Moreover, the three member governments' annual review and approval of the CEC's work plan ensures that NAFTA parties regularly prioritize regional environmental concerns and agree on steps to address those concerns. The Secretariat implements the CEC's annual work program, and provides administrative, technical and operational support to the Council. The creation of the Secretariat has ensured that resources are devoted to the CEC's environmental initiatives on a daily basis. The JPAC is composed of fifteen citizens, five from each of the three countries, and advises the Council on any matter within the scope of the NAAEC. The JPAC ensures that the views of citizens are factored into the Council's deliberations.

NAFTA parties are seeking solutions to a number of issues of trilateral significance for the first time, focusing initially on five major themes: (1) protecting human health and the environment; (2) enforcement cooperation and law; (3) environmental conservation; (4) environment, trade and economy; and (5) information and public outreach. Each year, the Council approves an Annual Program and Budget for the CEC that includes funding for a number of specific projects in each of these areas; some project highlights to date are described below.

Protecting Human Health and the Environment

Pollution, like other aspects of the North American environment, does not respect international boundaries. Some pollutants can travel great distances through the air, while others may be carried many miles by rivers or ocean currents. It is impossible for any country, acting alone, to prevent pollution from entering its territory. This portion of the CEC's work program aims to address this problem through cooperative efforts to reduce pollution and minimize its effects.

The sound management of chemicals is one area on which the CEC has focused a great deal of work. In 1995, NAFTA governments agreed to develop continental action plans for the sound management of chemicals that are acutely toxic or can build up to unacceptable levels in the food chain. So far, the CEC has reached agreement on regional action plans for eliminating the use of the industrial chemical PCB, still found in old electrical equipment, by 2008, and for the phase out of the use of two pesticides, DDT and chlordane, over ten years, and their replacement with less environmentally harmful controls for mosquitos and termites. In addition, a task force is working on a reduction strategy for mercury, which has both natural and anthropogenic sources.

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Another project involves the development of a North American pollutant release inventory. A common inventory of pollutant releases can encourage industry to generate less waste, supports community right-to-know initiatives, and will also help in the implementation of the toxic substances action plans. As part of this project, Mexico recently established its first pollutant release and transfer register mechanism. The three governments are also working to develop a cooperative long-term air quality monitoring, modeling, and assessment program for North America.

Article 10(7) of the NAAEC calls for the parties to develop recommendations on assessing the environmental impacts of proposed federal projects likely to cause significant adverse environmental effects across national borders. These recommendations are to include provisions for notifying affected parties, as well as ways to mitigate potential adverse effects of such projects. NAFTA parties have agreed to complete negotiations on transboundary environmental impact assessment procedures by April 15, 1998. The agreement will likely include a provision that will allow an affected state within one country to contribute comments and information to the environmental assessment process in another country, which will consider mitigation measures. The agreement will create an early warning mechanism to promote conflict avoidance.

Enforcement Cooperation and Law

Recognizing that strong environmental laws will do little to protect the environment unless they are accompanied by adequate enforcement efforts, each of NAFTA parties committed in the NAAEC to enforce effectively their environmental laws. To help the three countries improve their environmental enforcement efforts, the CEC formed the North American Working Group on Environmental Enforcement and Compliance, composed of senior federal, state, and provincial environmental officials from the three countries. This working group brings together for the first time people from different governments, including from their environmental, customs, and justice departments, to share information on enforcement strategies, as well as expertise and technical knowledge. These exchanges of information have improved each government's ability to track illegal transborder movements of hazardous substance and wastes, to enforce anti-smuggling laws against trade in endangered wildlife, and to limit the movement of harmful chemicals, such as ozone-destroying chlorofluorocarbons.

In addition to the commitment to effective enforcement, the NAAEC also includes a commitment that NAFTA parties will maintain high levels of environmental protection and continuously strive to improve their environmental laws and regulations. In recognition of this obligation, the Council has agreed to develop principles in 1997 to guide the development of a new generation of environmental regulatory and other management systems. The CEC will use such principles as a yardstick to evaluate the extent to which new laws, rules and regulations fulfill their obligations under Article 3.

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Environmental Conservation

There are many species of animals, birds, fish and plants that are unique to North America. The ranges for many of these species cross national boundaries, which means that in order to ensure their survival, NAFTA governments must cooperate to improve management and conservation of these species' habitats. The CEC is creating tools, such as North American ecosystem maps and a North American biodiversity database network, which will enable governments to make better-informed decisions regarding steps to ensure the continued viability of these species.

Under the auspices of the CEC, the three governments are currently working together to develop strategies for the conservation of migratory species that are threatened by the loss or decline in quality of their habitats throughout their North American migratory routes. The CEC's North American Monarch Butterfly Conservation program, for instance, will support study of the Monarch butterfly's population dynamics and may include establishment of additional protected areas, public education efforts, and site management efforts to improve critical migratory habitats. Similarly, the CEC is coordinating a partnership of key public and private organizations to protect vital migratory bird habitat, including resting, feeding, breeding and nesting grounds along principal North American flyways.

The CEC is also promoting cooperation on the protection of marine and coastal ecosystems, which are under threat from increasing pollution and habitat transformation. The CEC is assisting the three governments in implementing their commitments under a recently negotiated international agreement in this area (the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities, or GPA, concluded in November 1995). Focusing initially on two marine and coastal ecosystems, the Southern California Bight and the Gulf of Maine, the CEC is assisting the governments in identifying land-based threats to those ecosystems and steps to address those threats.

Environment, Trade and Economy

The NAAEC calls for an ongoing consideration of the "environmental effects of NAFTA" in Article 10:(6)(d). Accordingly, the CEC has convened a non-governmental panel of trade and environmental experts to design and implement an analytical framework to identify and assess, to the extent possible, the effects of increased economic development, including the direct and indirect effects of NAFTA, on the environment of North America. The panel is in its third year of work on a general framework for the assessment and believes this framework will provide the basis for further cooperation among the Parties to address ways of countering any negative effects and promoting any positive effects that it identifies. The CEC Council will receive the panel's results at the end of 1997, at which point it will determine how best to continue to fulfill the Agreement's obligation for ongoing work in this important area.

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Another of the CEC's objectives is to promote pollution prevention policies and practices. In order to do so among small to medium-sized industries in NAFTA countries, in 1996 the Council created a pilot fund for pollution prevention projects in Mexico and is currently exploring options for extending this fund to the United States and Canada. To address the barrier of inadequate information exchange, the CEC has created a Technology Clearinghouse. This project assists potential users of environmental technology in finding the technology necessary to help them comply with relevant environmental laws and regulations or to improve their production efficiency while maintaining or improving their competitiveness.

Information and Public Outreach

As part of the NAAEC, NAFTA parties committed to provide the public with information about environmental developments, and allow public participation in discussions of how the environmental provisions of NAFTA and the NAAEC are being carried out. For example, the CEC Council holds annual public meetings, at which the three environment ministers hold open dialogues with the public.

This openness extends to every level of the CEC. Several CEC projects involve participants drawn from a number of sectors of society. In addition, the JPAC plays an important role in ensuring that citizens from all three NAFTA countries can help the CEC make decisions about its future direction, spending and programs. To date, the JPAC has hosted public meetings annually on specific topics of concern to the Council. Topics for 1997, for example, are the long range transport of air pollutants, voluntary compliance with environmental management systems, and environmental networking between North American communities. JPAC representatives and the CEC Council have frequent and extensive interactions, thereby ensuring that the CEC is well informed of public concerns regarding North American environmental issues.

In addition, each of NAFTA governments maintains its own advisory committees to provide input to its national delegations to CEC meetings. The United States has established both National and Government Advisory Committees. The National Advisory Committee is made up of non-governmental representatives, including business, environmental organizations, and academics. The Government Advisory Committee is made up of state, local, and tribal leaders from around the nation. There are ten to fourteen members on each committee.

For consultations to be meaningful, those involved must have access to accurate and timely information. To broaden its outreach, the CEC established an Internet Homepage which contains a wide array of information, including current CEC publications, summaries of the three countries' environmental laws, and CEC project results. In addition, a CEC resource center has been established in Mexico City, to make information more accessible to those NAFTA citizens living furthest from the CEC headquarters in Montreal.

North American Fund for Environmental Cooperation

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In 1995, the CEC created the North American Fund for Environmental Cooperation NAFEC as a means to fund community-based projects in the United States, Mexico, and Canada. The fund has been allocated a total of \$1.6 million for the 1996 fiscal year. In order to maximize the impact of the CEC's limited resources, proposals are encouraged for projects which not only promise concrete results at the local level, but which also have larger-scale impacts. NAFEC seeks projects which respond creatively to new challenges or seek new solutions to old problems, and whose results can be shared throughout North America. To date, 35 projects have been funded under this program.

CEC Activities under NAAEC Articles 13 and 14

Article 13 Reports

Article 13 of the NAAEC authorizes the CEC Secretariat to prepare a report *sua sponte* on any matter within the scope of the annual program or on any other environmental matter related to the cooperative functions of the NAAEC, unless the Council objects by a two-thirds vote within 30 days. To date, the Secretariat has completed two Article 13 reports, one about the long-range transport of air pollutants and the other evaluating the death of 40,000 migratory birds at the Silva Reservoir in the Mexican state of Guanajuato.

In 1995, 40,000 migratory birds died from an unidentified cause at the Silva Reservoir in the Mexican state of Guanajuato. Facilitated by the Mexican government, the Secretariat sent an international team of scientists to investigate. The team determined that the overwhelming cause of death was avian botulism. The CEC is currently working with the local government to clean up the Reservoir to prevent recurrence of botulism. In addition, an international team of scientists has been formed to exchange information about avian botulism in an effort to cooperatively resolve many of the outstanding questions about the disease.

Article 14 Citizen Submissions

Under NAAEC Article 14, the CEC Secretariat may consider a submission from any non-governmental organization (including businesses) or person asserting that a Party is failing to effectively enforce its environmental law. If the Secretariat determines that a submission meets the criteria set out in Article 14(1), it must decide whether the petition merits requesting a response from the concerned Party, in accordance with Article 14(2). After considering any response provided by that Party, the Secretariat may recommend to the Council that a factual record be developed, in accordance with Article 15 and the Guidelines for Submissions on Enforcement Matters under Articles 14 and 15 of the NAAEC. The Council may then instruct the Secretariat to develop a factual record on the submission.

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Ten public submissions have been filed in the three years that the Secretariat has been operational. Of these submissions, three concern the United States, two concern Mexico, and five concern Canada. Following is a summary of the submissions received to date:

- *U.S. Endangered Species Act:* The first submission under Article 14 was filed with the CEC Secretariat on June 30, 1995, by a consortium of environmental groups. These groups alleged that a supplemental appropriations and rescissions bill suspended enforcement of the Endangered Species Act's listing provisions. The case was terminated when the Secretariat determined that a change in law itself, under most circumstances, does not constitute a failure to effectively enforce the law within the meaning of Article 14.
- *U.S. Salvage Timber Sales:* The second submission which the Secretariat received in 1995 was filed by a consortium of U.S., Mexican, and Canadian environmental groups. This submission alleged that provisions of a 1995 supplemental appropriations act resulted in a failure to effectively enforce U.S. environmental laws by eliminating private remedies for timber salvage sales. As in the previous submission, the Secretariat determined that the provisions of Article 14 were not intended to apply to legislative actions.
- *Cozumel Reef:* In this case, which was filed in January 1996, Mexican environmental groups alleged that the Government of Mexico failed to conduct an adequate environmental review of a project involving construction of a cruise ship pier at Cozumel Island near the Paradise Coral Reef and the onshore facilities. The Secretariat determined that the submission met the requirements of Article 14, and subsequently requested and received a response from Mexican government to the submission. In August 1996, pursuant to a recommendation from the CEC Secretariat, the environmental ministers of the three NAFTA governments directed the Secretariat to compile a factual record in this case. The Secretariat is close to completing a final factual record.
- *Canadian Wetlands:* A second submission filed in 1996 alleged that the governments of Canada and Alberta had failed to effectively enforce their environmental laws, resulting in the pollution of specified wetland areas and impacting the habitats of fish and migratory birds. In this case, the Secretariat determined that the submitter, a Canadian citizen, was still pursuing his legal remedies in Canadian court. Therefore, the Secretariat terminated the current proceeding.
- *Canadian Fisheries Act:* This submission, which was filed in September 1996 by a Canadian environmental group, alleged that the Canadian government was failing to enforce the habitat protection sections of the Canadian Fisheries Act and the Canadian Environmental Assessment Act. In November, the Secretariat requested a response to the submission from the Government of Canada. In its response, Canada stated that the matter raised in the submission is the subject of a pending judicial or administrative proceeding in federal court. Therefore, the Secretariat terminated the current proceeding.

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- *Fort Huachuca:* In this submission, which was filed in November 1996, the Southwest Center for Biological Diversity alleged that the U.S. Army failed to conduct an adequate environmental impact assessment when Congress decided to increase the number of people assigned to Fort Huachuca, Arizona. In its response, the United States noted that the submitter had failed to file a timely complaint in the domestic courts, and that the alleged non-enforcement action occurred entirely before the NAAEC entered into force and therefore is not within the scope of Article 14. The Secretariat determined that the preparation of a factual record was not warranted, but has decided to undertake an Article 13 study of water use in the area.
- *Hydro-electric Dams in British Columbia:* This submission, which was filed in April 1997, alleges that the Canadian government is failing to enforce the Canadian Fisheries Act to ensure the protection of fish and fish habitat in British Columbia's rivers from environmental damage caused by hydro-electric dams. In May, the Secretariat requested a response to the submission from the Government of Canada.
- *Contamination of the Rio Magdalena:* On April 23, 1997, the Secretariat received a submission alleging that wastewater from certain municipalities in the Mexican state of Sonora was being discharged into the Magdalena River without prior treatment. According to the submitters, this practice contravenes Mexican environmental legislation governing the disposal of wastewater. The Secretariat is conducting its initial evaluation of this submission.
- *Canadian Hog Establishments:* Also in April 1997, the Secretariat received a submission from a consortium of Canadian environmental groups, alleging that the Government of Quebec has failed to enforce certain environmental protection standards regarding agricultural pollution originating from animal production facilities, especially hog farms. The Secretariat is conducting its initial evaluation of this submission.
- *Atlantic Implementation of Canadian Fisheries Act:* On May 23, 1997, the Canadian Environmental Defense Fund asserted that Canada failed to enforce the Environmental Assessment Review Process Guidelines Order by not requiring an assessment of The Atlantic Groundfish Strategy (TAGS). This submission was a result of the Canadian government's decision to re-open the groundfish fishery, a decision that the submitters assert was not supported by a proper scientific assessment.